

OPERATING INSTRUCTIONS

ENTRY 4500



Model No. BA-EN45

Banner American Products, Inc.
Temecula, CA



CAUTION...

TO AVOID ANY DAMAGE,

PLEASE DO NOT USE

RAZORS OR SHARP

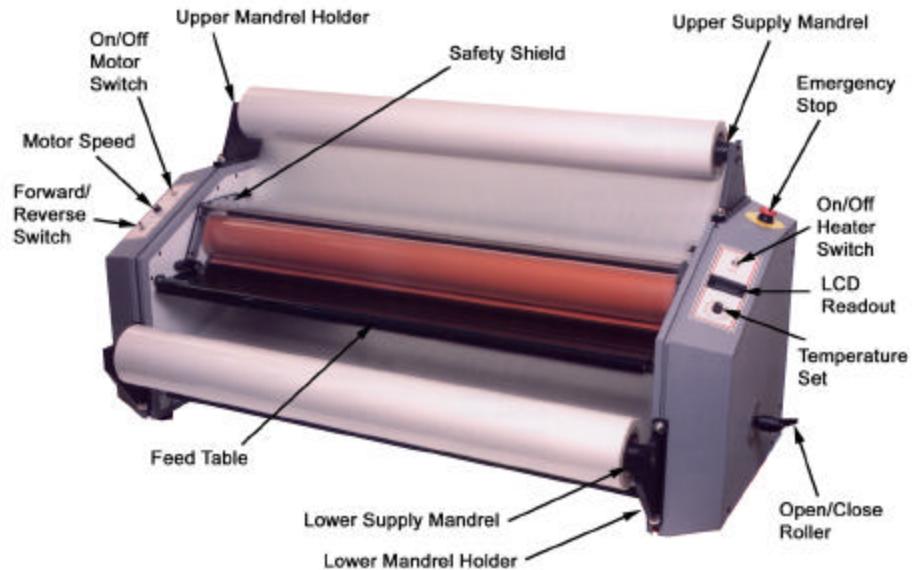
OBJECTS NEAR THE

ROLLERS.

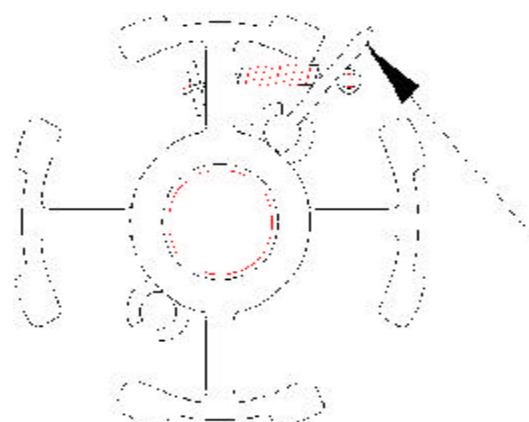
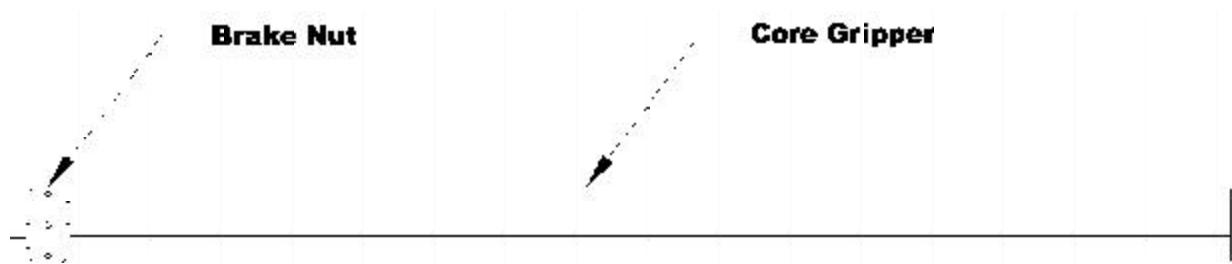
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Entry 4500 (BA-EN45)



Mandrel



Gripper

I. For your safety...

- ◆ Do not connect the laminator to electrical power or attempt to operate it until you have read these instructions completely. Keep these instructions in a convenient location for future reference.
- ◆ Read all safety messages located in this instruction manual and on the laminator very carefully.
- ◆ Always replace safety shield before operating your laminator. If you service this machine yourself, ensure that the safety shield is returned to the operating position when service is completed. Do this to protect all operators. Operators may be harmed if you do not follow this instruction.
- ◆ Removing feed table exposes hot and moving parts. This means that you can be harmed if you remove the feed table. When the table is in the proper position the risk of injury to the operator is reduced.
- ◆ Do not operate this laminator without all detachable units installed correctly. This means that there is risk of injury if this product is operated without all of its parts in their proper positions.
- ◆ Keep hands and clothing away from rollers. The rollers are pinch points that can trap body parts or clothing and cause serious injury.
- ◆ Do not touch the front rollers while the laminator heater power is on. Turn rollers off and allow to cool.
- ◆ Do not use the laminator for other than its intended purpose.
- ◆ Only operate this machine if you have been properly trained and authorized to do so. Contact the manufacturer for training information at 909-296-9780.

II. Electrical Safeguards...

- ◆ Never override or attempt to defeat electrical or mechanical safety interlock devices.
- ◆ Disconnect power supply before servicing your laminator. This laminator uses *double pole/neutral fusing*.
- ◆ A readily accessible disconnect device should be incorporated in the fixed wiring.
- ◆ The machine has been manufactured without a plug on the power cord. We recommend that you connect this unit directly to a power main. Have a qualified electrician install your power supply for you. Care must be exercised to properly identify the neutral wire in the power cord. The neutral power cord wire is color coded white. The neutral of the power main should be identified using a suitable voltmeter.
- ◆ The laminator should only be operated from the type of power source indicated in these OPERATING INSTRUCTIONS and on the serial label located on the rear panel of the unit.
- ◆ Do not leave the laminator power on for extended periods while not in use. Open the panel breaker at the end of the day as a precaution against a possible fire hazard.

- ◆ Do not operate the laminator with a damaged power supply cord or plug.
- ◆ Replace fuses only with same type rated 30A, 240V and 1A, 250V fuses. Contact your dealer for replacement fuses.
- ◆ There are two (2) EMERGENCY STOP buttons on your Entry 4500, one on each side. Depressing one of these buttons will stop the rollers.



III. Specifications...

Operating Speed:	Adjustable to 5 fpm (2.54cm/sec.)
Power Requirements	
Voltage:	Single Phase 208-240 VAC, 50/60 hz
Warm Up Time:	10-15 minutes
Fuse:	30 A
Maximum Laminating Dimensions	
Thickness:	1/4" (6.35mm)
Width Capacity:	45" (1143mm)
Net Weight:	260 lbs (120 kg.)
Shipping Weight:	360 lbs (165 kg.)



IV. Set-up...

Inspection:

Upon receipt of your Entry 4500, inspect the crate, the machine and all other contents of the crate for shipping damage. Damage should be brought to the immediate attention of the delivering carrier.

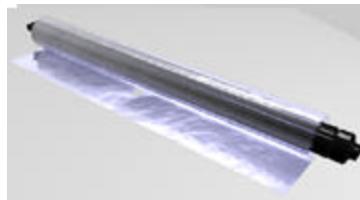
Appropriate Location:

Your Entry 4500 must be placed on a sturdy table or stand in a clean, well lit area with ample space on all four sides of the laminator. Contact your dealer for the optional stand designed especially for the Entry 4500.

Loading Film onto Mandrels

The following instructions apply to poly-in film rolls.

Top Roll: With the gripper spring away from you, pull the core gripper blade toward you and place the roll of film onto the mandrel so that the film unwinds toward you from the bottom of the roll. Turn the roll on the mandrel to lock the core gripper blade into the cardboard film core.



TOP MANDREL

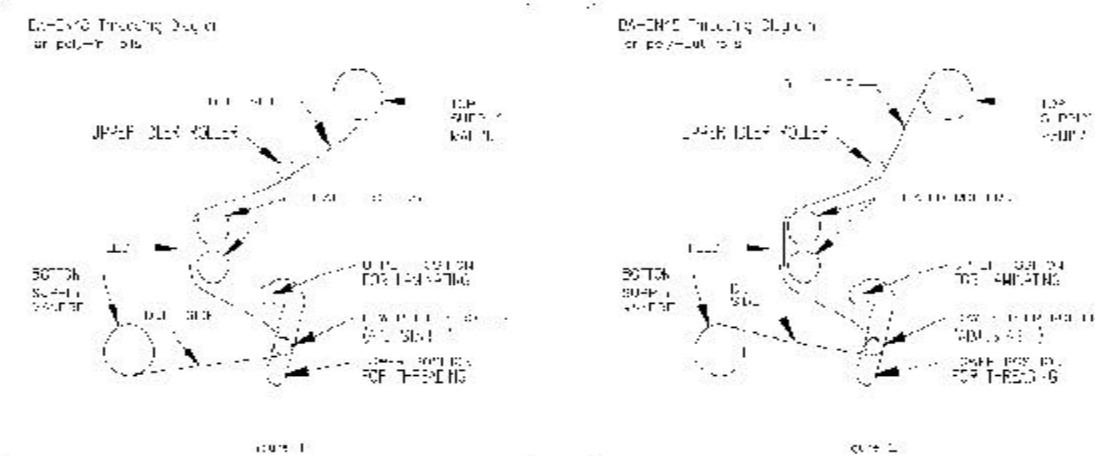
Bottom Roll: With the gripper spring towards you, push the core gripper blade away from you and place the roll of film onto the mandrel so that the film unwinds away from you from the bottom of the roll. Turn the roll on the mandrel to lock the core gripper blade into the cardboard film core.



BOTTOM MANDREL

The core gripper blades on the top and bottom mandrels spring back in opposite directions. The blade should spring back in the direction that the core will rotate when laminating. When the film is loaded properly the core gripper blade will prevent the film from turning on the mandrel. When using *poly-in* rolls the top roll of film should unwind from the bottom and the bottom roll should unwind from the top. With *poly-out* rolls the top roll will unwind from the top and the bottom roll from the bottom. Once the film is properly loaded onto the mandrels, replace the mandrels onto the laminator.

Threading the Film (Figures 1&2)



1. Feed the film from the top roll behind the upper idler roller and lay it over both rollers. Be sure that the adhesive side of the film is facing out and the non-adhesive side is against the roller.
2. To thread the lower roll, first drop the lower idler roller down.
3. Pull about 4' of film from the bottom roll. Feed the film from the bottom roll under and behind the lower idler roller.
4. Lay the film from the lower roll over the film from the top roll and both rollers, again ensuring that the adhesive side of the film is facing away from the rollers. If you are cold loading it will be necessary to tape the bottom film to the top film. If you are hot loading, the bottom film will adhere to the top film where it overlaps at the rollers.
5. Have a large piece of poster board ready to use as a feed card to thread the film between the rollers.
6. Close the rollers.
7. Set the FORWARD/REVERSE switch to the FORWARD position and turn the MOTOR ON/OFF switch to the ON position.

8. Turn the SPEED CONTROL knob far enough to allow the rollers to sufficiently pull the poster board into the laminator. Keep in mind that varying films, media, and temperatures will require different speeds.
9. Feed the poster board between the rollers.
10. After the laminator is properly threaded and the poster board has exited the rear of the laminator, make any necessary adjustments.
11. Attach film clip to exit of the rear of the lamination in center. This will help the film exit laminator properly. Please see Figure 3 below.

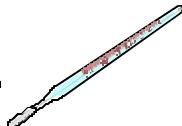


Mandrel Tension Adjustment:

Mandrel tension must be set correctly to ensure good lamination quality. Adjust the tension by turning the brake nut at the end of each mandrel.

To increase the tension, turn the brake nut clockwise. To decrease the tension, turn the brake nut counter-clockwise. Adjust only 1/8 of a turn between tests. Use the minimum amount of tension necessary to achieve good results. (See Section X Troubleshooting for possible tension adjustment problems).

V. Thermal Laminating...



1. Be sure all laminator parts (i.e. safety shield, feed table, etc.) are in their proper positions and the laminating film is loaded correctly (See page 3 for film loading instructions).

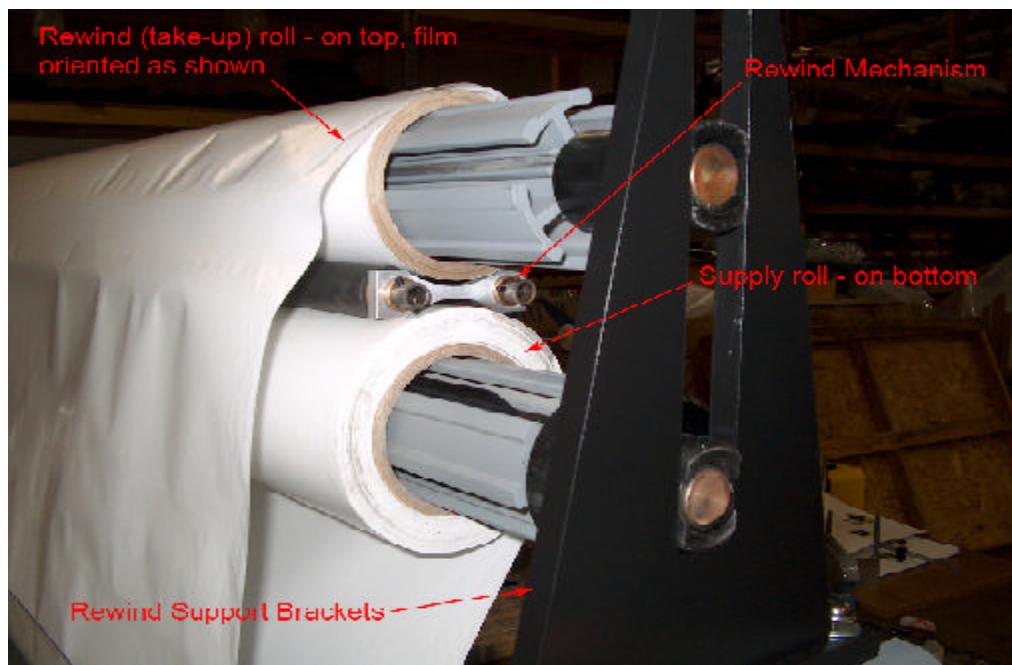
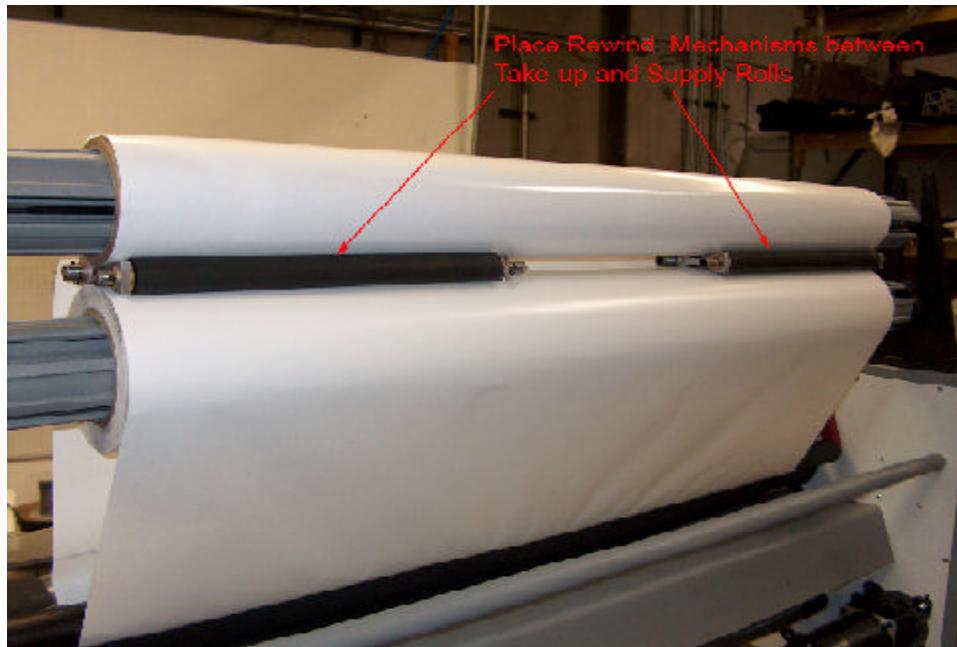
2. Set the temperatures according to the film manufacturer's recommendations for the film you have chosen. A low-melt film is recommended for inkjet prints. Keep in mind that the temperature at which you will laminate will vary with different medias and laminating speeds. See the chart below for approximate temperature ranges. The laminator will take approximately 10-15 minutes to reach operating temperature. The temperatures will be indicated on the LCD displays.

3 mil DIGIKote™	190°-210°F
5 mil DIGIKote™	220°-230°F
10 mil DIGIKote™	225°-235°F

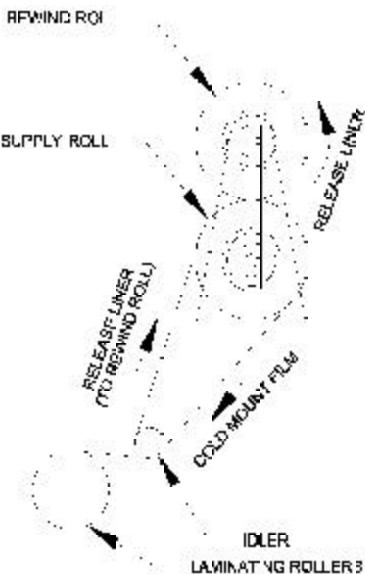
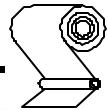
3. Turn the MOTOR switch ON and perform a test lamination to ensure proper settings for successful lamination. Watch film as it exits the rollers so it doesn't wrap around the rollers. It might be helpful to hold the film at first when starting a lamination run. If any adjustments are necessary make them now and run another test. Repeat this step until you obtain desired results.

4. Allow the Entry 4500 to run a small amount of film before feeding the print into the laminator to avoid a dwell line across your print. Feed the print slowly and evenly, smoothing it as the rollers pull it through.
5. You may laminate subsequent prints now, leaving ample space between each print for trimming.
6. Once your last print has completely exited the laminator, turn the MOTOR switch OFF.

Rewind Option for Pressure Sensitive Laminating...



VI. Pressure Sensitive Laminating...



Note: You must have the Rewind Option for Pressure Sensitive Films in order to laminate with pressure sensitive material.

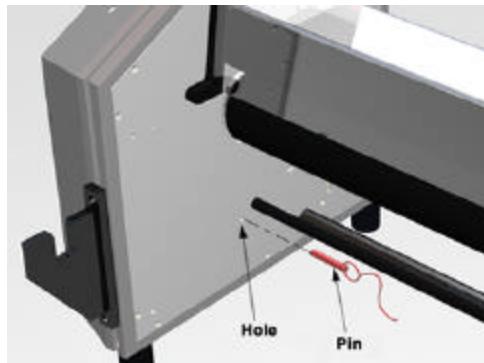
1. Load a roll of pressure sensitive film onto the supply mandrel so that it unwinds toward you from the bottom of the roll.
2. Load an empty film core on the rewind mandrel and place it in position on top of the supply mandrel.
3. Either place a roll of material on the lower mandrel that is at least as wide as the pressure sensitive film you are using and thread as usual **or** use an additional piece of media under the print you will be cold laminating. This will keep the adhesive from transferring to the rollers.
4. Thread the pressure sensitive film behind the upper idler roller rod.
5. Peel back enough of the release liner to tape it to the empty film core on the take-up mandrel. Tape the liner to the back of the core and drape the film over both rollers.
6. Set the PRESSURE CONTROL to the appropriate position (CLOSE for laminating; put red mounting pins in for mounting).
7. Set the FORWARD/REVERSE switch to the FORWARD position.
8. Turn the MOTOR CONTROL ON/OFF switch to the ON position.
9. Turn the MOTOR CONTROL knob far enough to sufficiently pull a feed card into the laminator.
10. Feed the feed card into the front rollers.
11. After the laminator is properly threaded and the poster board has exited the rear of the laminator, make any necessary adjustments.

VII. Coating Mount Board...



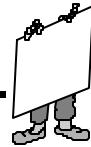
The Entry 4500 is capable of applying an adhesive coating to mount board that has not previous been coated.

1. Load a roll of adhesive, with the liner wound to the outside, onto the top mandrel in the same manner as with laminating film.
2. Load a roll of paper on the bottom mandrel or use adhesive the same width as the mount board to keep the adhesive from accumulating on the rollers.
3. Place mount pins in holes. (Please see picture below).



4. Set the temperature to approximately 125°F. The Entry 4500 will take approximately 10-15 minutes to reach operating temperature. The roller temperatures are indicated on the LCD displays.
5. Feed the uncoated mount board into the laminator behind a small leader board. The leader board will prevent the compression of the leading edge of your mount board.
6. You may coat subsequent boards now, one directly behind the other, so that the board in front becomes the leader board. We recommend that you coat a sufficient supply of mount board in one session so you'll have it ready for future use.

VIII. Mounting & Laminating...



1. Be sure all laminator parts (i.e. safety shield, feed table, etc.) are in their proper positions and the laminating film is loaded correctly (See page 3 for film loading instructions).
2. Place mounting pins in proper holes.
3. Turn the TEMPERATURE CONTROL switch to the ON position.
4. Set the temperatures according to the film manufacturer's recommendations for the film you have chosen. The Entry 4500 will take approximately 10-15 minutes to reach operating temperature. The temperature of the heated rollers are indicated on the LCD display.
5. Turn the MOTOR switch ON and perform a test mount to ensure proper settings for successful mounting. If any adjustments are necessary make them now and run another test. Repeat this step until you obtain desired results.
6. Position the print to be mounted on a section of mount board up to $\frac{1}{4}$ " thick behind a leader board. The leader board will prevent compression of the leading edge of your mount board.
7. Feed the print and mount board into the laminator behind the leader board slowly and evenly. ***Be sure to pull back the release liner before it enters the rollers.***
8. You may mount subsequent prints now, one directly behind the other so that the board in front becomes the leader board.
9. Once your last print has completely exited the laminator, turn the MOTOR switch OFF and use a razor to remove the mounted and laminated prints.

IX. Maintenance/Service...



Always use caution when servicing your laminator.

Precautions:

-  Disconnect the power supply and open the panel breaker before attempting to service or repair the laminator.
-  Any maintenance or service should be performed only by those having appropriate technical training and experience. Contact the manufacturer at 909-296-9780 for training information or technical assistance.
-  Adjust only those controls that are specified in these operating instructions.

Cleaning Rubber Rollers:

Excessive build-up of adhesive on the rollers may cause poor lamination quality and erratic film movement. Use the following procedure to remove any adhesive from the laminating rollers.

1. Turn the HEATED ROLLERS off and ***allow the laminator to cool.***
2. Cut the film where it comes off the top and bottom supply rolls. Pull any film out of the laminator and away from the rollers.
3. Carefully remove the feed table to access the rollers. The feed table exposes hot and moving parts.
4. Disconnect the power supply.
5. Clean the exposed section of the rollers with a soft cloth dampened with an appropriate cleaning solution such as isopropyl or denatured alcohol.
6. Reconnect the power supply and turn the FORWARD/REVERSE switch to the FORWARD position. Turn the MOTOR switch to the ON position momentarily to expose a new section of the rollers.
7. Repeat steps 3-5 until the rollers are thoroughly clean.
8. Allow the rollers to dry completely before rethreading the laminating film.

Removing Wrap-Arounds:

Build-up on the rollers may cause a film wrap-around, especially when using thin film gauges. Follow the procedure below to remove wrap-arounds.

1. Turn the HEATED ROLLERS OFF. Allow the laminator to cool.
2. Cut the film where it comes off the top and bottom supply rolls.

3. Open the ROLLER RELEASE handle on the side of the laminator and pull the film out of the unit that has become wrapped around the rollers.

4. If you have a severe wrap-around, it may be necessary to use the REVERSE feature to back the film out. Be sure to pull the film away from the laminator.

If there is a wrap-around on the lower roller, or if there is a run-away heat condition, please check the sensor on the bottom roller to ensure it is touching the roller.

X. Trouble-shooting...



Symptom	Possible Cause	Corrective Action
LCD does not show display when heat switches are on.	No power to laminator Blown fuse	Close panel breaker Disconnect power and replace fuse
Film is not bonding to the print	Laminator not set to optimal laminating temperature Ink on print is wet Paper is too slick	Adjust temperature slightly upward. Allow ink to dry thoroughly Use a more matte paper
Laminated item curls	Top or bottom film tension is too high	Loosen tension on side (top or bottom) that is curling up
Laminated item is wrinkled	Mandrel tension too loose Temperature too high Moisture in paper being laminated	Increase mandrel tension on side (top or bottom) that has wrinkles Reduce temperature Store paper in dry area
Laminated item is blistered	Temperature too high	Reduce temperature
Mandrel tension does not remain constant	Brake nut improperly adjusted Core gripper blade is not preventing the core from spinning on the mandrel	Tighten nut Rotate film core while holding the mandrel firm to lock the blade into the core
Too much heat with a lower indicated heat readout on LCD	Bottom roller sensor not touching.	Ensure bottom roller sensor is touching core

Do's and Don'ts...



- ✓ Read the instruction manual before operating your laminator.
- ✓ Always run test samples before laminating valuable items.
- ✓ Feed the print through slowly and evenly, smoothing it as it is pulled into the laminator.
- ✓ Operate the laminator with two rolls of the same width laminating film to avoid excessive adhesive transfer to the rollers.
- ✓ If laminator is not in current use, lower the heat setting or turn unit off.
- ✓ Never feed abrasive materials or metal objects such as staples, paper clips, or glitter through the laminator. Keep sharp objects like scissors and rulers away from the rollers at all times.
- ✓ Once an item has been fed between the rollers do not attempt to alter its position as this can damage the print.
- ✓ Do not stop the laminator before the item has completely exited from the rear to avoid a "dwell line" across the print.
- ✓ Do not clean or service the laminator before disconnecting the power supply.

XII. Warranty & Return Policy...



Warranty:

Your Entry 4500 is warranted to be free of defects in material and workmanship for a period of 1 year from the date of original purchase. In the event of a defect in materials or workmanship, Banner American Products, Inc. or its authorized dealer, will repair or replace (at their option) the laminator.

Banner American Products, Inc. makes no other warranty stated or implied except as stated above. This warranty does not cover damage to the machine that occurs as a result of misuse or improper handling, or damage to prints.

Return Policy:

If your laminator is not operating properly, first review the Operating Instructions and the troubleshooting guide. If the malfunction cannot be corrected, contact your local dealer for instructions. Be sure to have your machine serial number and date of purchase handy.

If the laminator must be returned to the dealer, it is your responsibility to ensure that it is packaged properly. Shipping damage as a result of improper packaging is not covered under the terms of this warranty.

XIII. Parts List and Illustrations

This section contains reference drawings and a parts list to assist you when ordering parts for your laminator. The drawings show only those parts that may be replaced by the dealer.

Item	Part Number	Description	Quantity
1	11108	BAR, CAM PRESSURE	2
2	11109	BRACKET, CAM PRESSURE	2
3	11110	ROD, CAM	1
4	11111	TABLE, FEED	1
5	11112	HOLDER, FEED TABLE	4
6	11113	BRACKET, BEARING	2
7	11114	PLATE, BEARING	2
8	11115	BAR, ROLLER RELEASE	2
9	11116	HEATER	2
10	11117	BRACKET, HEATER GUARD, L	1
11	11118	COVER, HEATER GUARD	1
12	11119	HOLDER, BOTTOM HEATER	2
13	11120	HOLDER, TOP HEATER	2
14	11121	INSULATOR, HEATER	4
15	11122	TUBE, HEATER	2
16	11123	HOUSING, ROD	3
17	11124	BLOCK, IDLER/DRIVE	1
18	11125	IDLER	1
19	11126	ROD, LOWER IDLER	1
20	11127	ROD, UPPER IDLER	1
21	11128	LABEL, LEFT	1
22	11129	PLATE, LEFT SIDE	1
23	11130	TABLE, RUN-OFF	1
24	11131	PLATE, RIGHT SIDE	1
25	11132	END, ROLLER	4
26	11133	ROLLER, SILICONE, 35-40	2
27	11134	COVER, SIDE	2
28	11135	FRAME, LEFT SIDE CONTROL	1
29	11136	FRAME, RIGHT SIDE CONTROL	1
30	11137	FRAME, TOP LEFT	1
31	11138	FRAME, TOP RIGHT	1
32	11139	FRAME, FRONT LEFT	1
33	11140	FRAME, FRONT RIGHT	1
34	11141	FRAME, BOTTOM	2
35	11142	FRAME, BACK	2
36	11143	MANDREL, SUPPLY	2
37	11144	BAR, THERMOSTAT	1
38	11145	TUBE, ROLLER	2
39	11146	TUBE, WIRE	1
40	11148	LABEL, RIGHT	1
41	11149	RUN-OFF TABLE, BACK	1
42	11150	BRACKET, HEATER GUARD, R	1
43	7310	FUSE, 1A, (MDL)	2
44	2434	FUSE HOLDER, RL40	1
45	2351	SWITCH, TOGGLE, RL40	2
46	2775	SWITCH, TOGGLE, RL40	2
47	8288	RELAY, SOLID STATE 25A DC	2
48	541	TERMINAL BLOCK, 6 STATION	2
50	4031	DIGITAL READ OUT (NEW)	1
51	1170	FEET, RUBBER, LARGE	4
52	2386	OFFSET CAM COMPLETE RL43	2
53	2332	CLAMP LEVER, RL40	1
54	2369	BUSHING, IDLER FOR RL43	4
55	6546	SWITCH, EMERGENCY STOP	2
56	10124	CONTROL, HEAT, FINISHERS	1
57	2433	FUSE, 30 AMP USA, RL40	2
58	2324	MOTOR, RL40, 180V DC 42	1
59	2735	POWER CORD WIRE, RL40	10
60	2325	CHAIN, LINK, #35 MASTER	2

Item	Part Number	Description	Quantity
61	557	KNOB, THERMOSTAT	2
62	11045	VARIABLE SPEED CONTROL	1
63	4096	CLAMP, POWER CORD	1
64	2379	MAIN BODY BRAKE FOR RL43	4
66	2378	BRAKE NUT FOR RL43	4
67	2777	SWITCH, JOURNAL, EMERGENC	2
68	11100	CAPACITOR, .01uF	1
69	3032	HOLDER, SUPPLY MANDREL T	2
70	3033	HOLDER, SUPPLY MANDREL B	2
71	3034	MOUNT, CHASSIS	4
72	8279	SENSOR, K TYPE	1
73	11167	IDLER, UPPER, ENTRY 4500	1
74	11175	BOX, 70 X 36 X 36, 600T	1
76	1172	FUSE HOLDER, HTB-34I	2
77	11183	LABEL, RIGHT	1
78	11184	SPACER, ROLLER, ENTRY4500	2
79	11185	SPROCKET, ROLLER	2
80	4268	COLLAR, SET, 1.25 I.D.	3
81	11187	COLLAR, SHAFT, 5/8"	2
82	11188	SPROCKET, IDLER, 4500	1
83	11189	SPROCKET, DRIVE, FRONT	1
84	2740	WIRE, 10 AWG WHITE	7'
85	2741	WIRE, 10 AWG BLACK	7'
86	588	WIRE, 14 GAUGE, WHITE	3'
87	587	WIRE, 14 GAUGE, BLACK	2'
88	595	WIRE, 18 GAUGE, WHITE	1'
89	589	WIRE, 18 GAUGE, BLACK	1'
90	590	WIRE, 18 GAUGE, BLUE	3'
91	594	WIRE, 18 GAUGE, VIOLET	1'
92	592	WIRE, 18 GAUGE, ORANGE	12'
93	599	WIRE, 18 GAUGE, YELLOW	1'
94	597	WIRE, 18 GAUGE, WHITE	1'
95	1326	WIRE, 18 AWG WHITE/BLACK	6"
96	598	WIRE, 18 AWG, WHITE/RED	6"
97	10398	CHAIN, #35 BULK	5'
98	7251	CORE GRIPPER, MANDREL	2
99	1457	SCREW, 10-24 X 1/2"	12
100	10878	BOLT, HEX, 5/16-18 X 3/4	6
101	2659	SCREW, 1/4-20 X 2" P.H.	4
102	1087	SCREW, 6-32 X 3/8" PAN	2
103	2500	SCREW, 1/4-20 X 3/4"	12
104	580	WASHER, 1/4 FLAT S A E	4
105	1450	SCREW, 1/4-20 X 1/2" P.H.	12
106	1456	SCREW, 10-24 X 1/2" FLAT	2
107	1458	SCREW, 10-24 X 1/2"	6
108	2661	SCREW, 1/4-20 X 3/4" P.H.	4
109	2828	SCREW, 1/4-20 X 1", FLAT	2
110	349	SCREW, 8-32 X 3/8" P.H.	2
111	2719	SCREW, 10-24 X 3/8" PAN	4
112	11190	PALLET, ENTRY4500	1
113	1365	NUT, 1/4 - 20	4
114	10837	FHCS, 1/4-20 X 3/4	12
115	11191	SHCS, 5/16-18 X 3	4
116	2322	35BS17, 17T X STD. BORE	1
117	4225	BRACKET, CORNER, 90 DEG	6
118	4227	BRACKET, CORNER, 116.5 DG	2
119	4226	BRACKET, CORNER, 153 DEG	2
120	11192	SCREW, SET, 10-32 X 1/2	40
121	11193	BOLT, SHOULDER,1/2 X 5/16	2
122	11194	BHCS, 10-24 X 5/8	8
123	11195	PHPS, 8-32 X 1/2 BLACK	16
124	11213	SPROCKET, DRIVE, BACK	1
125	11221	BUSHING, 1/2 X 5/8 X 1 LG	1
126	11222	BUSHING, 1/2 X 5/8 X 1/2	1
127	11226	MOUNT PIN, RED	2
128	11333	BINDER CLIP	1

Exploded Assembly

